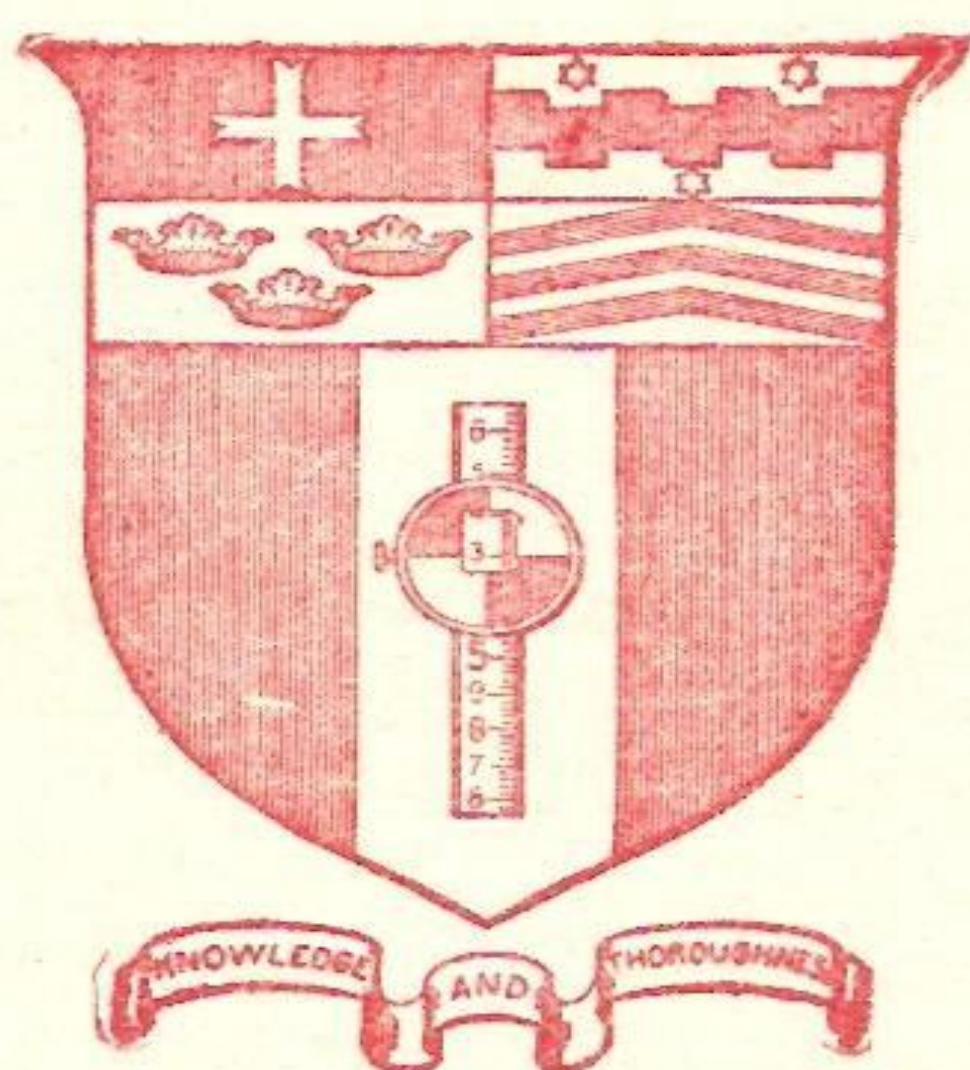


Songs and Yells of Rensselaer



1922

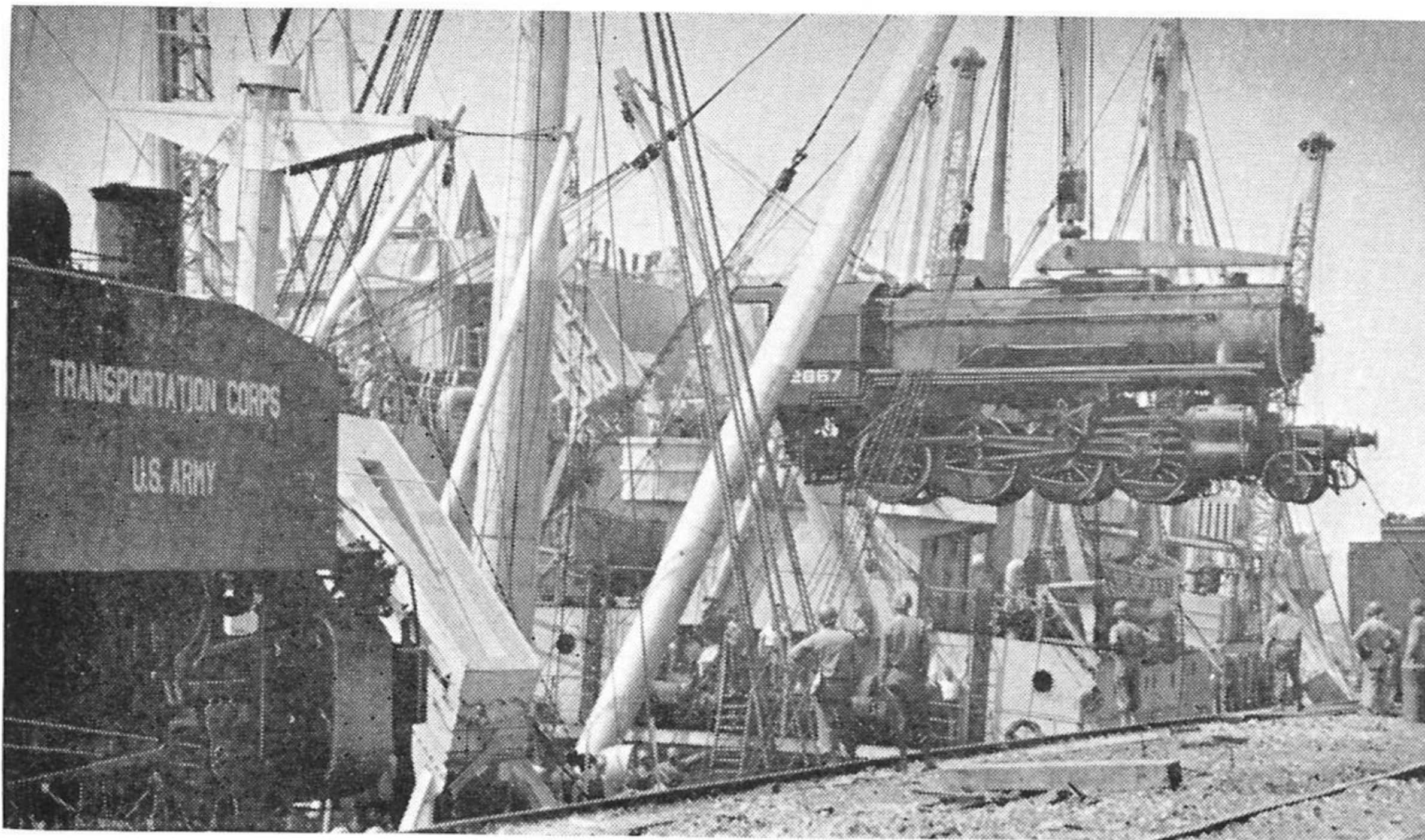


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W. & L. E. GURLEY

Engineering Instrument Makers

TROY, N. Y., U. S. A.



Alco Steam Locomotive Goes to War at Cherbourg in 1944

Then came Pearl Harbor!

This was Alco's third major war. As mentioned previously the "Big Shop" produced 84 locomotives for Uncle Sam during the Civil War. During World War I, 1916-1919, Alco built hundreds of locomotives for the Allied Nations. It has always done well in national emergencies. But in World War II, Alco outdid itself.

The company had never made tanks, but it was the first in America to produce an M-3 "General Grant" tank satisfactory to the United States Army. It went on to build M-4s, the hard-hitting "General Sherman" tank, and had produced approximately 6,000 tanks when it was asked to reconvert to badly-needed steam locomotives. During World War II, Alco produced 1,086 steam locomotives and 157 diesel-electric locomotives for the War Department.

In the midst of World War II transition, Alco was directed to build M-36 tanks, or "Sluggers" as the tank men were to call them in battling the Tiger tanks of the Nazis back through France. The last of Alco's "Sluggers" were delivered in December, 1944, the month the Battle of the Bulge began. Alco had preserved its record for being on time.

Alco was on time at the battle of El Alamein, the turning point in Rommel's drive through North Africa. At El Alamein a secret weapon made its appearance. Although this weapon was in daily production and ran around

Schenectady streets to the Testing Grounds and Shipping Depot, no information regarding it leaked out. This was a mobile carrier for a 105 mm cannon, called the M-7. This was the famed tank destroyer which took part in the rout of Rommel's tanks. All the M-7s which burst suddenly on the Nazis at El Alamein—1,000 of them—were built by Alco workers at Schenectady. Alco was the exclusive manufacturer of this weapon and built a total of 3,314 of the M-7s.

Alco was also on time in the kind of war story most satisfying to railroad men. The story was told in "Casey Jones Goes to War," by Amy Porter, in Collier's magazine, May 20, 1944:

The Trans-Iranian railroad gave America's soldier railroaders one of the hottest, coldest, toughest jobs they ever had to do. In the critical days of late 1942, Russia called for more supplies. Nazi submarines were crippling the Murmansk convoy route. The Mediterranean was closed to Allied shipping, and although generous supplies were being brought around the tip of Africa and landed at Persian Gulf ports, only a feeble trickle got through to Russia. The inadequately powered Trans-Iranian Railway was the bottleneck.

This 650-mile road bisects a 150-mile stretch of desert before it struggles to heights of more than 7,000 feet in the Elburz Mountains. Temperatures range from 170 degrees Fahrenheit in the desert to 40 below in the mountains . . . There are 225 tunnels, thousands of bridges.



Alco tanks Parade at State St. and Erie Blvd.

British steam locomotives and even America's 2-8-0's were not powerful enough to negotiate this tortuous road and haul much freight. It took most of their power to carry the coal and water on which they ran. Something had to be done.

At this point American Locomotive Company representatives were called to Washington . . . Could P. T. Egbert of Alco, Washington wanted to know, get some diesel-electrics over to Iran quick? Mr. Egbert could. And could Alco, by the way, convert the diesel axle arrangement somehow so the Iran road could bear their 120-ton weight? They could.

In the first week of December, twenty-nine diesels with six axles instead of the standard four were delivered at the Persian Gulf—along with



An Alco M-7 in Action Somewhere in Italy

a newly recruited American Locomotive shop battalion, eight hundred strong, to play nursemaid to the thousand-horsepower giants. The M.R.S. (Military Railway Service) took over operation of the road, and shipments increased until in May, 1943, Russian requirements in munitions and supplies were exceeded by 18 per cent . . .

Now a great fleet of diesels and a grand division of M.R.S. troops have the Iran situation well in hand.

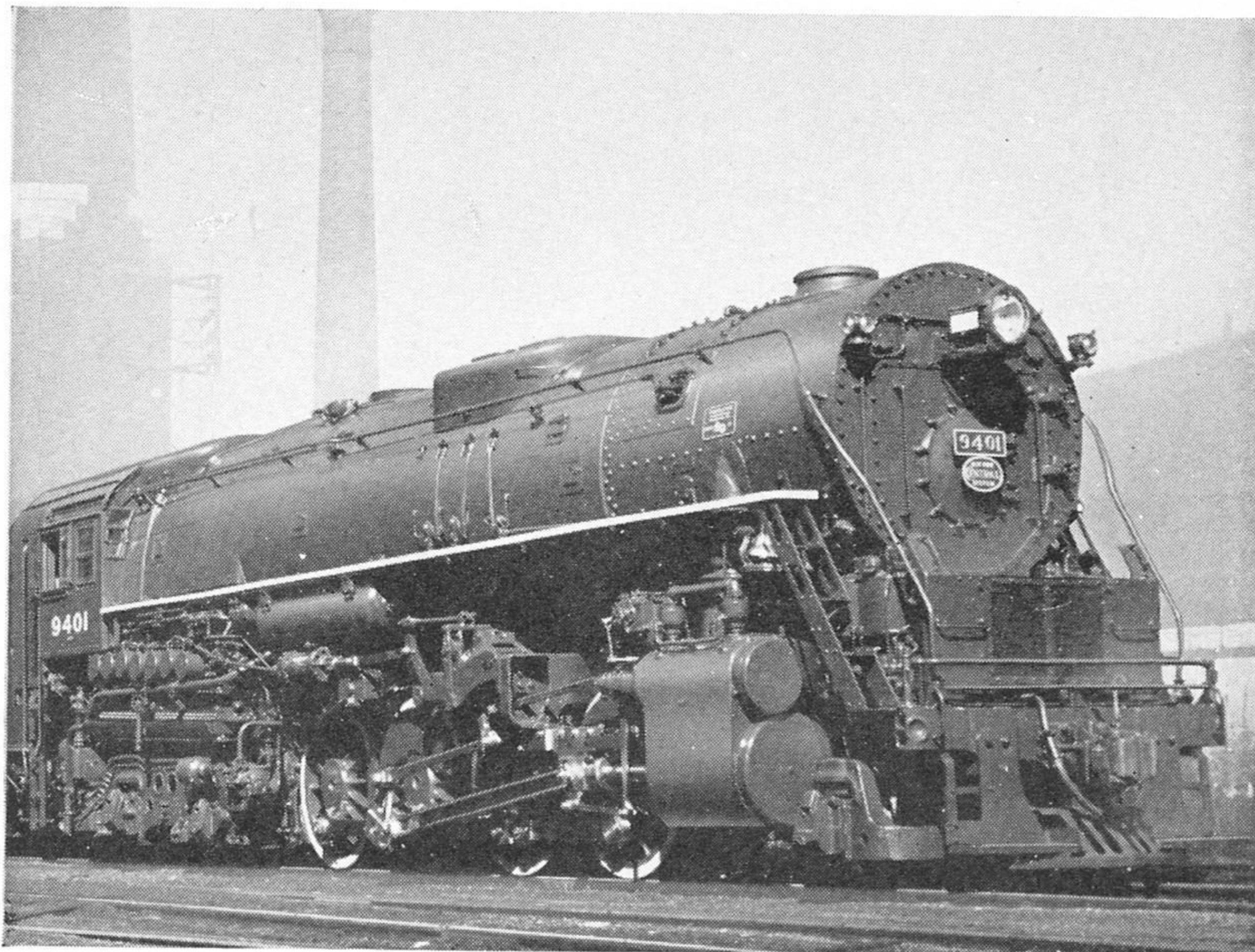
Here also should go a testimonial to Alco employees who produced more than a billion dollars' worth of war materials and to Alco itself which risked millions of dollars of its own capital often without waiting for contract



Lowering 1,500 hp diesel engine into chassis



Modern 4,500 hp Diesel-Electric in Night scene at New Haven



End of Steam Production in June, 1948

formalities, and was one of the lowest-cost producers of munitions with a wartime profit of 2.5 per cent.

Another accomplishment in Alco's brilliant war record was construction of 150 Scotch Marine Boilers by mass production methods for the British Supply Mission and the U. S. Navy. By using these mass production methods on the first order of 90 boilers, three were completed 5 days ahead of contract time and the last was completed 9 months ahead of schedule. Marine engine forgings were also made for British ocean-going vessels. The Schenectady plant also made forgings for General Electric and turret rollers that were precision machined for U. S. battleships.

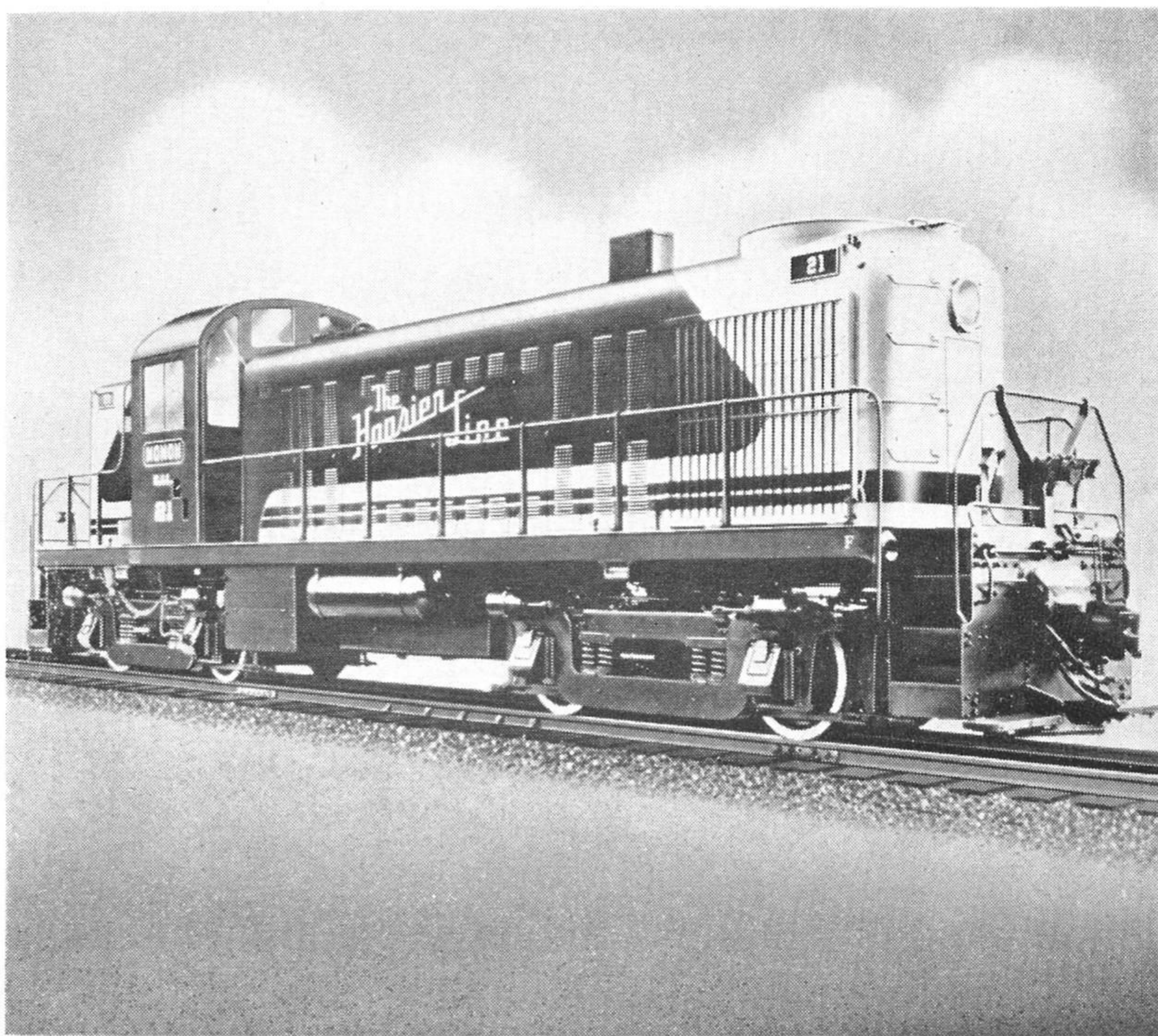
Forgings for Navy torpedoes were also produced at Schenectady as were large calibre gun barrels for the War Department.

At war's end Schenectady was represented at the final phase of the Pacific operations. General of the Army Douglas MacArthur stood on the foredeck of the Battleship Missouri as the Japs signed surrender terms. Above MacArthur were the menacing and mammoth 16 inch guns and these guns maneuvered on turret rollers made at the Schenectady plant.

Turning to the long, problem-laden march back to peace-time production

and commerce, the American Locomotive Company faced the enormous problems of plant reconversion, plant expansion, material shortages, rising costs, maximum employment and, of course, stiff competition for business in an economic market. To solve these problems more than \$20,000,000 in company funds were appropriated to effect the conversion to the manufacture of diesel-electric locomotives.

That this uphill fight was won is best indicated by the fact that in 1946 approximately 75 per cent of locomotive production was for steam locomotives and only 25 per cent for diesel-electrics. This ratio was reversed in 1947 as the railroads, their equipment depleted by a war transportation record that shattered all conception of what could be done with rolling stock, wanted diesel-electric locomotive replacements as fast as they could get them. The end of steam locomotive production came quietly but not unexpectedly in this, the Centennial year of the Schenectady plant. Today *all* Alco locomotive production is for diesel-electrics.



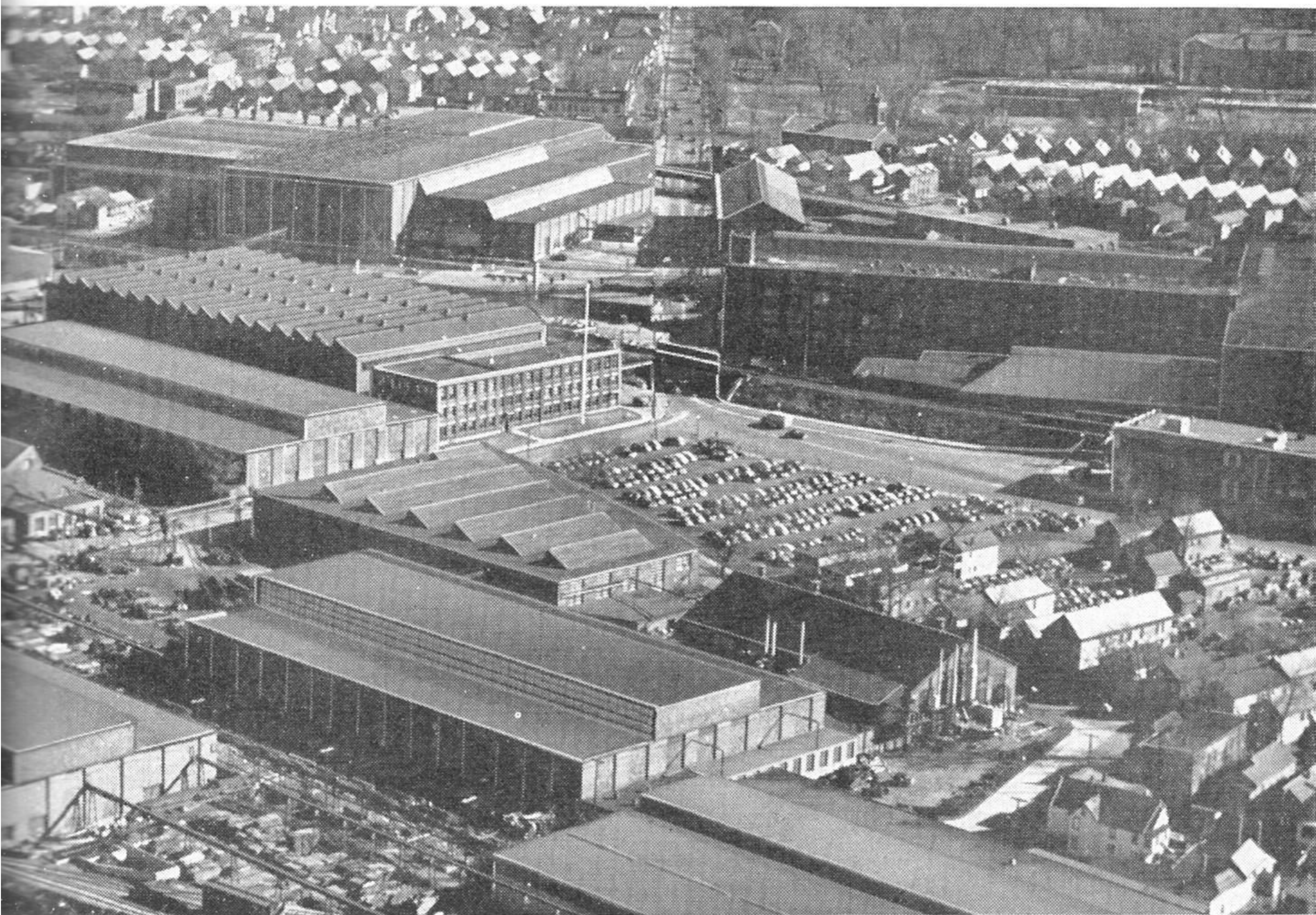
1,500 hp road switcher for the Monon



Striking Aerial View of American Locomotive Company

The Schenectady workers at Alco can be justly proud of their craftsmanship which won for the company many other firsts in the diesel-electric field. Alco was first to offer American railroads a complete line of diesel-electric locomotives for all requirements. It was the first locomotive manufacturer to produce its own diesel engine. It was the first to develop and put into service the turbo-supercharged diesel locomotive. It was the first to develop traction motors specially for use in diesel-electric locomotives. It was the first to make a complete system survey on diesel locomotive operation. It was the first to establish factory instruction of railroad personnel in operation and maintenance of diesel locomotives.

By 1941, 62 per cent of the company's orders were for diesel locomotives and traditional resistance to introduction of a radically different type of motive power was rapidly diminishing. World War II interrupted this technological trend, however, and the American Locomotive Company was called on to produce, as we have seen, steam locomotives for the government and great quantities of combat weapons.



plant at Schenectady Illustrates Vastness of 112 acre installation

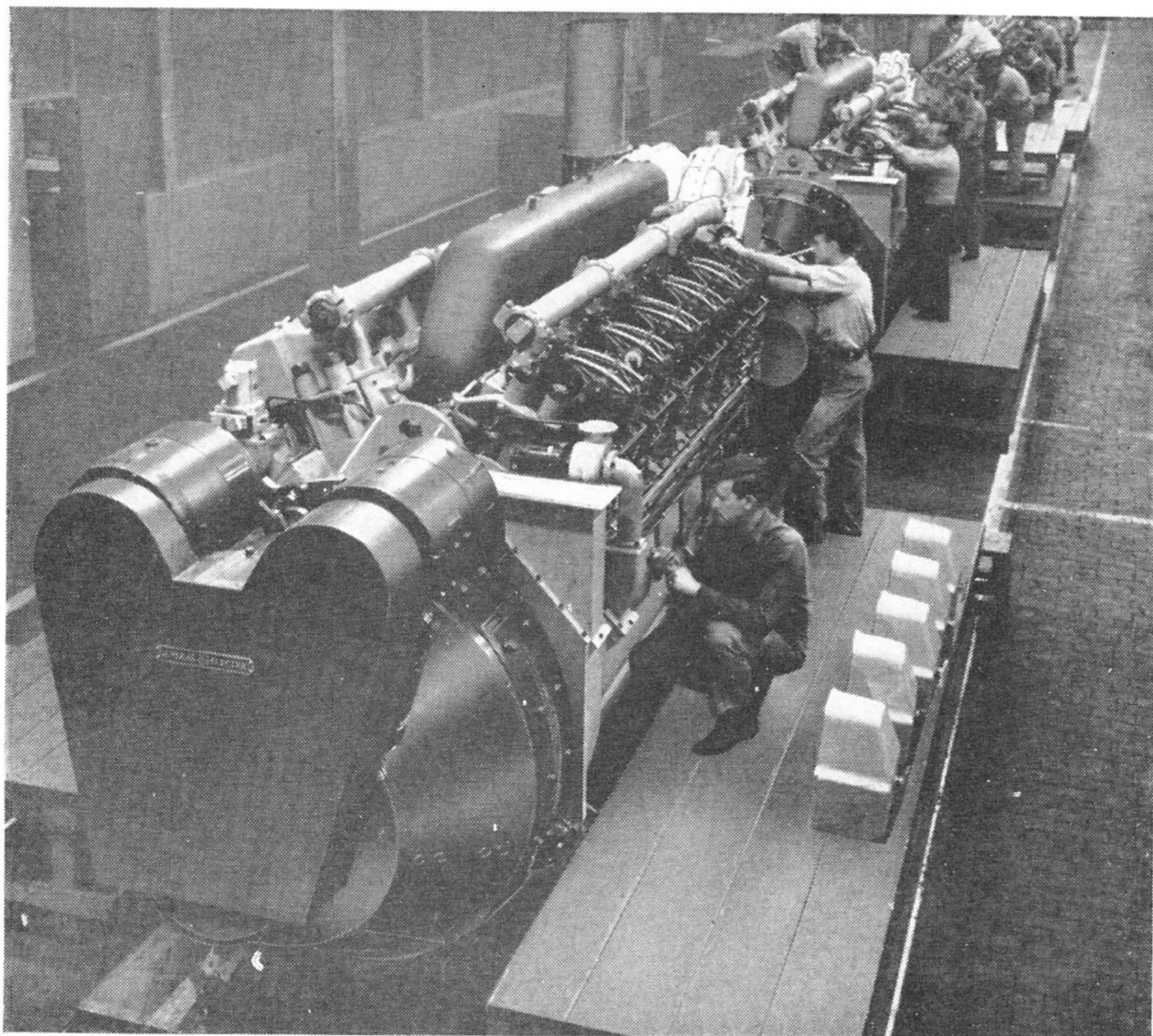
The railroads have fully recognized diesel-electric economies. The best steam locomotive spends 10 to 20 per cent of its time in the round-house; the diesel, less than 4 per cent. The diesel offers all-around advantages in greater availability, flexibility and capacity.

Brake maintenance is reduced by the fact that traction motors provide their own braking power when run in reverse. Car maintenance is reduced because the diesel delivers smoother pulling power. The continuous flow of energy turning the drive wheels contrasts with the hammer-like thrusts of a steam locomotive's drivers. This results in a saving in the upkeep of roadbeds, for, as one observer remarked, "This Alco diesel doesn't pound, puff or jerk, but just goes like the wind."

Complete dieselization of most United States railroads is now generally expected and a few railroads have already completed their dieselization programs. Others have them well under way. It is estimated that there are 35,000 steam locomotives on American railroads today. It will probably take about 20,000 diesel-electrics to replace them during the next ten years.

It was a sad day for many fifty year veterans of the steam era when the end of steam locomotive production came in June, 1948.

Some find it a source of sentimental regret. Others are excited by its reflection of industrial progress. But none will miss the significance of the fact that Alco—in the same year that it celebrates one hundred years of locomotive building at Schenectady—has made a one hundred per cent conversion from steam to diesel-electric locomotives.



Diesel Engine Assembly Line

So, in 1948, we literally find Alco in a brand new business—the manufacture of diesel-electric locomotives. Even with its fast start interrupted by a major war, Alco has emerged as one of the Big Two in the industry, a close second to the Electro-Motive Division of General Motors. With Government blessing, General Motors made great strides building road diesel-electrics during the war while the Government commissioned Alco to build combat weapons and vitally-needed steam locomotives for the war



Alco's 75,000th Locomotive, a 6,000 hp passenger diesel-electric, built in 1946

effort. In spite of this, Alco is doing 40 per cent of the nation's diesel-electric business as this is written.

The diesel-electric business offers new possibilities for expansion. Renewal parts for these locomotives will become an important factor in the company's business in the future. Already a vast and new renewal parts department is expanding as rapidly as warehouses and increased staffs are available. Thus, renewal parts appears to be a balance wheel for the company's future—if and when the locomotive business reaches a saturation point in years to come.

Renewal parts activities can become another important and stabilizing function along with the company's Railway Steel Spring Division and the Alco Products Division whose products are made at plants in other parts of the country.

The history of Alco's Schenectady plant has always been the history of its workers and of the community. Locomotive manufacturing is in the blood of many Schenectady families. Father-son teamwork and even third generation locomotive builders are common in the Schenectady plant. A recent



New York Central night scene by Howard Fogg

survey showed that Alco workers are deeply interested in the future prospects of their company and in its competitive position.

With the cooperation of labor, Alco seeks to assure its production workers the largest possible share of the price of every locomotive. Indeed, as a man working for his share in every locomotive built, he is a man working for himself in cooperation with others. He has an incentive to produce more. A fair share for labor is the basis on which Alco builds locomotives.

Thanks to the American industrial genius which comprises the labor-management-shareholder team at Alco, the company has post-war diesel-electrics already in service on more than 40 major railroad systems.

As a further testimony to keeping its industrial growth parallel to the progress of the community and to integrate administrative and production activities in the dieselization of American railroads, Alco, in its Centennial year here, is moving its general offices from New York to Schenectady. Truly Alco and Schenectady are partners in progress, as they have been for a hundred years.

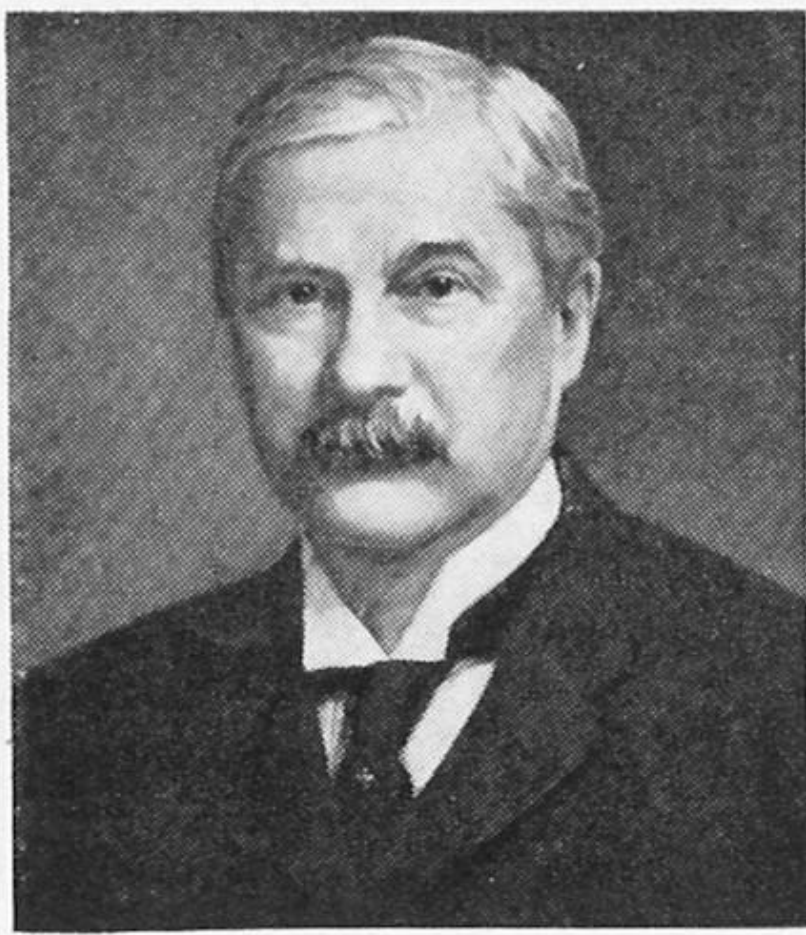
Alco expects to continue this partnership.

Schenectady, N. Y.
September, 1948

Presidents of American Locomotive Company



SAMUEL R. CALLAWAY
President 1901-1904



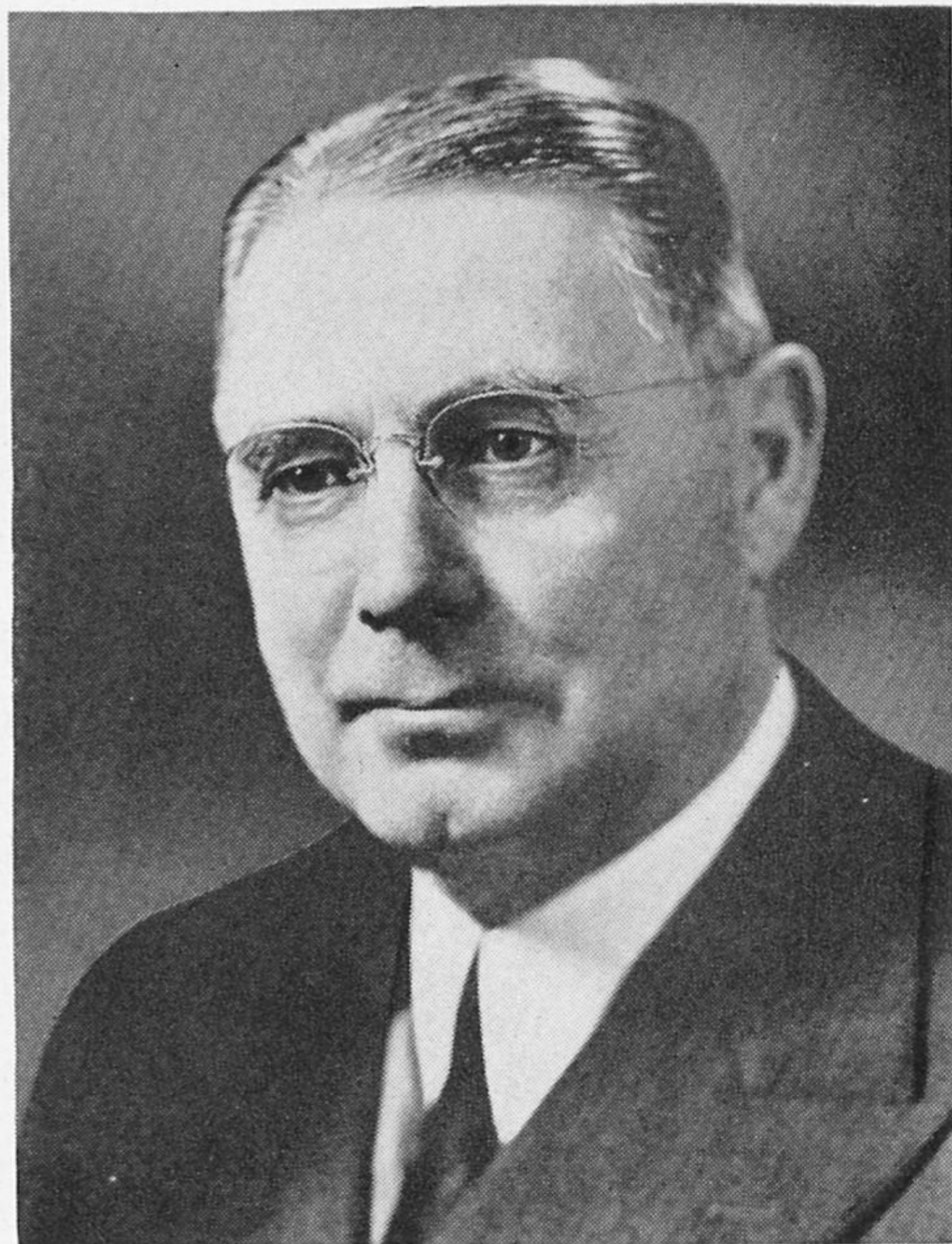
ALBERT J. PITKIN
President 1904-1905



WALDO H. MARSHALL
President 1906-1916



ROBERT B. McCOLL
President 1945—Present



DUNCAN W. FRASER
President 1940-1945
Chairman of Board 1945—Present



ANDREW FLETCHER
President 1917-1925



FREDERICK FITZPATRICK
President 1926-1927



WILLIAM H. WOODIN
President
1925-1926, 1927-1929

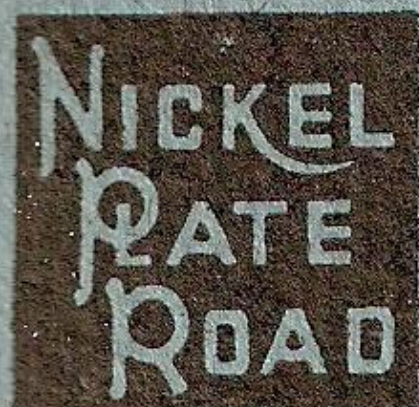


WILLIAM C. DICKERMAN
President 1929-1940

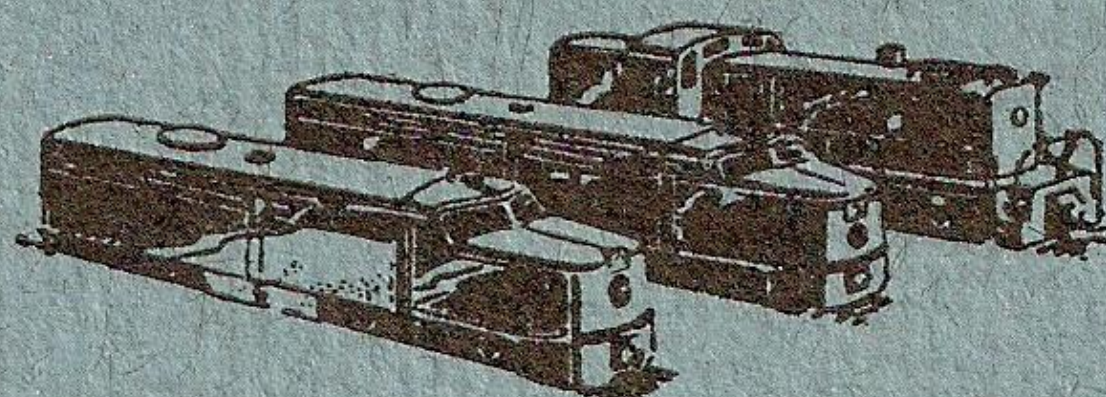
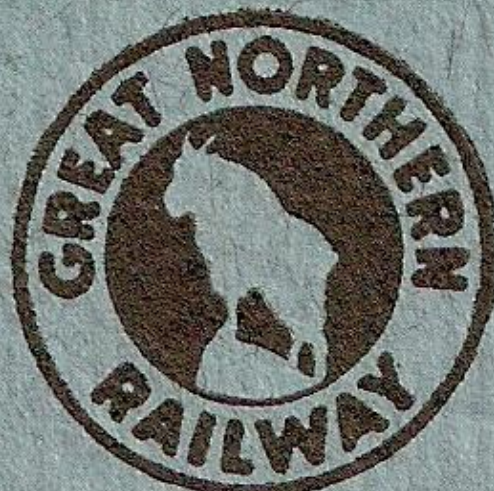


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**American
Locomotive**



UNION



Some Buyers of New Alco Road Diesels

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Santa Fe
Boston & Maine
Carolina & Northwestern
Chicago Great Western
Chicago, Indianapolis &
Louisville
Chicago, Milwaukee,
St. Paul & Pacific
Chicago & Northwestern
Chicago, Rock Island &
Pacific
Delaware & Hudson
Denver & Rio Grande
Western
Detroit & Mackinac
Elgin, Joliet & Eastern
Eric Railroad
Great Northern
Green Bay & Western
Gulf, Mobile & Ohio
Kansas City Southern
Lehigh & New England
Lehigh Valley
Maine Central

Missouri Pacific
Missouri-Kansas-Texas
Minneapolis, St. Paul and
Sault Ste. Marie
New York Central
New York, Chicago &
St. Louis
New York, New Haven &
Hartford
Oliver Iron Mining Co.
Pennsylvania Railroad
Reading Company
Seaboard Air Line
Southern Pacific
Southern Railway
St. Louis-San Francisco
Spokane, Portland & Seattle
Texas Pacific-Missouri
Pacific Terminal R.R. of
New Orleans
Texas & Pacific
Toledo, Peoria & Western
Union Pacific
Union Railroad
Wabash Railroad
Western Maryland
Youngstown & Northern

Alton and Southern



